

AMENDMENTS TO THE CLAIMS:

Amend the claims as follows:

Claims 1-74. (Canceled)

75. (Currently Amended) An isolated Hepatitis C virus polynucleic acid comprising a nucleotide sequence of one of the HCV types 7, 9 or 11, or of one of the subtypes 1d, 1e, 1f, 1g, 2e, 2f, 2g, 2h, 2i, 2k, 2l, 3g, 4k, 4l or 4m, wherein said types or subtypes comprise the following prototype sequences:

SEQ ID NO: 43, 45, 47, 89, 91 or 93 for HCV type 7,

SEQ ID NO: 41 or 95 for HCV type 9,

SEQ ID NO: 99, 101, 103 or 105 for HCV type 11,

SEQ ID NO: 1, 3, 5, 7, 53, 55 or 57 for HCV subtype 1d,

SEQ ID NO: 9, 59 or 61 for HCV subtype 1e,

SEQ ID NO: 11 or 63 for HCV subtype 1f,

SEQ ID NO: 65 or 67 for HCV subtype 1g,

SEQ ID NO: 13, 15 or 69 for HCV subtype 2e,

SEQ ID NO: 17 or 71 for HCV subtype 2f,

SEQ ID NO: 19 for HCV subtype 2g,

SEQ ID NO: 21, 23 or 73 for HCV subtype 2h,

SEQ ID NO: 25 for HCV subtype 2i,

SEQ ID NO: 75 or 77 for HCV subtype 2k,

SEQ ID NO: 79 for HCV subtype 2l,

SEQ ID NO: 81 for HCV subtype 3g,

SEQ ID NO: 27, 29, 31, 33, 35, 37 or 83 for HCV subtype 4k,

SEQ ID NO: 39 or 85 for HCV subtype 4l,

SEQ ID NO: 87 for HCV subtype 4m;

or the complement of any one of SEQ ID NOs: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19,

21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 53, 55, 57, 59, 61, 63, 65, 67, 69,

71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 99, 101, 103 or 105 thereof.

Claims 76-78. (Canceled)

79. (Currently Amended) A polynucleic acid selected from

(i) a polynucleic acid encoding an HCV polyprotein comprising in its amino acid sequence at least one amino acid sequence chosen from the group consisting of SEQ ID NOs: 107, 109, 110, 112-116, 120-133, 135-142, 144-147, 149-165, 167, 169-181, 183, 185-200, and 202-207,

(ii) or the complement of a polynucleic acid of (i) comprising the complement of a polynucleic acid encoding an HCV amino acid sequence selected from the group consisting of SEQ ID NOs: 107, 109, 110, 112-116, 120-133, 135-142, 144-147, 149-165, 167, 169-181, 183, 185-200 and 202-207.

Claim 80. (Canceled)

81. (Currently Amended) A recombinant polypeptide encoded by a polynucleic

acid selected from the group consisting of

(i) a polynucleic acid comprising a nucleotide sequence of one of the HCV types 7, 9 or 11, or of one of the subtypes 1d, 1e, 1f, 1g, 2e, 2f, 2g, 2h, 2i, 2k, 2l, 3g, 4k, 4l or 4m, wherein said types or subtypes comprise the following prototype sequences,

SEQ ID NO: 43, 45, 47, 89, 91 or 93 for HCV type 7,

SEQ ID NO: 41 or 95 for HCV type 9,

SEQ ID NO: 99, 101, 103 or 105 for HCV type 11,

SEQ ID NO: 1, 3, 5, 7, 53, 55 or 57 for HCV subtype 1d,

SEQ ID NO: 9, 59 or 61 for HCV subtype 1e,

SEQ ID NO: 11 or 63 for HCV subtype 1f,

SEQ ID NO: 65 or 67 for HCV subtype 1g,

SEQ ID NO: 13, 15 or 69 for HCV subtype 2e,

SEQ ID NO: 17 or 71 for HCV subtype 2f,

SEQ ID NO: 19 for HCV subtype 2g,

SEQ ID NO: 21, 23 or 73 for HCV subtype 2h,

SEQ ID NO: 25 for HCV subtype 2i,

SEQ ID NO: 75 or 77 for HCV subtype 2k,

SEQ ID NO: 79 for HCV subtype 2l,

SEQ ID NO: 81 for HCV subtype 3g,

SEQ ID NO: 27, 29, 31, 33, 35, 37 or 83 for HCV subtype 4k,

SEQ ID NO: 39 or 85 for HCV subtype 4l, and

SEQ ID NO: 87 for HCV subtype 4m;

(ii) a polynucleic acid encoding an HCV polyprotein comprising in its amino acid

sequence at least one amino acid sequence chosen from the group consisting of SEQ

ID NOs: 107, 109, 110, 112-116, 120-133, 135-142, 144-147, 149-165, 167, 169-181,

183, 185-200, and 202-207; and

(iii) a polynucleic acid encoding a HCV polyprotein comprising an amino acid sequence of one of the HCV types 7, 9 or 11, or of one of the HCV subtypes 1d, 1e, 1f, 1g, 2e, 2f, 2g, 2h, 2i, 2k, 2l, 3g, 4k, 4l or 4m, wherein said types or subtypes comprise the following amino acid prototype sequences,

SEQ ID NO: 44, 46, 48, 90, 92 or 94 for HCV type 7,

SEQ ID NO: 42 or 96 for HCV type 9,

SEQ ID NO: 100, 102, 104 or 106 for HCV type 11,

SEQ ID NO: 2, 4, 6, 8, 54, 56 or 58 for HCV subtype 1d,

SEQ ID NO: 10, 60 or 62 for HCV subtype 1e,

SEQ ID NO: 12 or 64 for HCV subtype 1f,

SEQ ID NO: 66 or 68 for HCV subtype 1g,

SEQ ID NO: 14, 16 or 70 for HCV subtype 2e,

SEQ ID NO: 18 or 72 for HCV subtype 2f,

SEQ ID NO: 20 for HCV subtype 2g,

SEQ ID NO: 22, 24 or 74 for HCV subtype 2h,

SEQ ID NO: 26 for HCV subtype 2i,

SEQ ID NO: 76 or 78 for HCV subtype 2k,

SEQ ID NO: 80 for HCV subtype 2l,

SEQ ID NO: 82 for HCV subtype 3g,

SEQ ID NO: 28, 30, 32, 34, 36, 38 or 84 for HCV subtype 4k,

SEQ ID NO: 40 or 86 for HCV subtype 4l, and

SEQ ID NO: 88 for HCV subtype 4m

~~according to any of claims 75, 79, 86 and 87.~~

82. (Previously Presented) A method for production of a recombinant polypeptide, comprising:

transformation of a cellular host with a recombinant vector, in which a polynucleic acid according to any one of claims 75, 79, 86 and 87 has been inserted under the control of regulatory elements, the polynucleic acid thus being an insert,

culturing said transformed cellular host under conditions enabling the expression of said insert, and

harvesting said polypeptide.

83. (Previously Presented) A recombinant expression vector comprising a polynucleic acid according to any one of claims 75, 79, 86 and 87 operably linked to prokaryotic, eukaryotic or viral transcription and translation control elements.

84. (Previously Presented) A host cell transformed with a recombinant vector according to claim 83.

85. (Previously Presented) A peptide corresponding to an amino acid sequence encoded by one of the polynucleic acids according to any one of claims 75, 79, 86 and 87.

86. (Currently Amended) An isolated HCV polynucleic acid consisting of at least 12 A part of at least 5 contiguous nucleotides of a the isolated Hepatitis C virus polynucleic acid of claim 75 wherein the amino acid sequence encoded by said at least 12 contiguous nucleotides part comprises at least one of the following amino acid residues of an HCV polyprotein:

L130, L140, I192, I230, E235, I255, I285, V2652, Q2653, K2663, A2667, I2707, A2709, L2746, T2752, A2692, S2749, S2753, H2656, L2708, D2657, M2686, F2730, T218, L240, Y2730, V2752, D2753, V2667, Q2663, S2646, D2677, P2749 or G2753 for HCV type 7,

A195, K197, N217, K197, A242, M297, I255, T236, E135, A58, N71, D106, E150, N217, L235, L240, E260, I300, D2657, G2649, Q2663, F2727, T2728 or I2752 for HCV type 9,

E2686, K2746, Q2752, D2754, V44, L2708, A2692 or Q2663 for HCV type 11, D60, D72, H81, F181, T190, H192, S217, Y223, M240, or R272, I213, M216 or M297 for HCV subtype 1d,

A49, E68, A2650 or V2746 for HCV subtype 1e,
S148, T150, G160, S196, D199, D256, E257, T294, S295, or I2745, I219, K217, I250, E2746, I230, S2753 or I255 for HCV subtype 1f,

H101, S110, Q153, F155, D157, A2719, or E2729 or I15 for HCV subtype 1g,
Q199, F236, K250, R261, A294, Y299, or H2697, S232, A71, M2686, D2752 or K296 for HCV subtype 2e,

P49, N197, F200, A208, F237, R250, A291, or A2748, H199, I192, Y297, T236,

~~A71 or M2686~~ for HCV subtype 2f,

~~L231, N249, V268, or S301, I213 or M216~~ for HCV subtype 2g,

~~H199, K217, H232, Q233, F290, I299, A2648, or I2741, H199 or M2686~~ for HCV subtype 2h,

~~A195, R197 or W231~~ for HCV subtype 2i,

~~Q55, E165, N199, T200, E296, P316, Q2686 or R2750~~ for HCV subtype 2k,

~~M2719, or D2728, F2659 or M2686~~ for HCV subtype 2l,

~~K2692, Y2708, E2751, A2755, L2756, or R2757 or D2752~~ for HCV subtype 3g,

~~I169, I192, T192, A222, A252 or N2752~~ for HCV subtype 4k,

~~S216, M256, S272, L2681, or S2752 or E2746~~ for HCV subtype 4l,

~~Q2756~~ for HCV subtype 4m;

with said notation being composed of a letter representing the amino acid residue by its one-letter code, and a number representing the amino acid numbering as shown in Figures 2, 4 and 6~~Table 1~~; or the complement of thereof.

87. (Currently Amended) A

(i) polynucleic acid encoding a HCV polyprotein comprising an amino acid sequence of one of the HCV types 7, 9 or 11, or of one of the HCV subtypes 1d, 1e, 1f, 1g, 2e, 2f, 2g, 2h, 2i, 2k, 2l, 3g, 4k, 4l or 4m, wherein said types or subtypes comprise

(ii) the following amino acid prototype sequences:

SEQ ID NO: 44, 46, 48, 90, 92 or 94 for HCV type 7,

SEQ ID NO: 42 or 96 for HCV type 9,

SEQ ID NO: 100, 102, 104 or 106 for HCV type 11,

SEQ ID NO: 2, 4, 6, 8, 54, 56 or 58 for HCV subtype 1d,
SEQ ID NO: 10, 60 or 62 for HCV subtype 1e,
SEQ ID NO: 12 or 64 for HCV subtype 1f,
SEQ ID NO: 66 or 68 for HCV subtype 1g,
SEQ ID NO: 14, 16 or 70 for HCV subtype 2e,
SEQ ID NO: 18 or 72 for HCV subtype 2f,
SEQ ID NO: 20 for HCV subtype 2g,
SEQ ID NO: 22, 24 or 74 for HCV subtype 2h,
SEQ ID NO: 26 for HCV subtype 2i,
SEQ ID NO: 76 or 78 for HCV subtype 2k,
SEQ ID NO: 80 for HCV subtype 2l,
SEQ ID NO: 82 for HCV subtype 3g,
SEQ ID NO: 28, 30, 32, 34, 36, 38 or 84 for HCV subtype 4k,
SEQ ID NO: 40 or 86 for HCV subtype 4l,
SEQ ID NO: 88 for HCV subtype 4m;

or

(ii) polynucleic acid encoding an HCV polyprotein comprising in its amino acid sequence at least one amino acid sequence chosen from the group consisting of SEQ ID NOs: 107, 109, 110, 112-116, 120-133, 135-142, 144-147, 149-165, 167, 169-181, 183, 185-200, and 202-207;

or

(iii) HCV polynucleic acid sequence encoding an HCV amino acid sequence, said polynucleic acid sequence consisting of at least 12 contiguous nucleotides of a

polynucleic acid of part (i) wherein the HCV amino acid sequence encoded by said at least 12 contiguous nucleotides comprises at least one of the following amino acid residues of an HCV polyprotein: a part of at least 5 contiguous amino acids of the amino acid sequence of part (i) wherein said part comprises at least one of the following amino acid residues:

L130, L140, I192, I230, E235, I255, I285, V2652, Q2653, K2663, A2667, I2707, A2709, L2746, T2752, A2692, S2749, S2753, H2656, L2708, D2657, M2686, F2730, T218, L240, Y2730, V2752, D2753, V2667, Q2663, S2646, D2677, P2749 or G2753 for HCV type 7,

A195, K197, N217, K197, A242, M297, I255, T236, E135, A58, N71, D106, E150, N217, L235, L240, E260, I300, D2657, G2649, Q2663, F2727, T2728 or I2752 for HCV type 9,

E2686, K2746, Q2752, D2754, or V44, L2708, A2692 or Q2663 for HCV type 11, D60, D72, H81, F181, T190, H192, S217, Y223, M240, or R272, I213, M216 or M297 for HCV subtype 1d,

A49, E68, A2650 or V2746 for HCV subtype 1e,
S148, T150, G160, S196, D199, D256, E257, T294, S295, or I2745, I219, K217, I250, E2746, I230, S2753 or I255 for HCV subtype 1f,

H101, S110, Q153, F155, D157, A2719, or E2729 or I15 for HCV subtype 1g,
Q199, F236, K250, R261, A294, Y299, or H2697, S232, A71, M2686, D2752 or K296 for HCV subtype 2e,

P49, N197, F200, A208, F237, R250, A291, or A2748, H199, I192, Y297, T236, A71 or M2686 for HCV subtype 2f,

L231, N249, V268, or S301, I213 or M216 for HCV subtype 2g,
H199, K217, H232, Q233, F290, I299, A2648, or I2741, H199 or M2686 for HCV
subtype 2h,
A195, R197 or W231 for HCV subtype 2i,
Q55, E165, N199, T200, E296, P316, Q2686 or R2750 for HCV subtype 2k,
M2719, or D2728, F2659 or M2686 for HCV subtype 2l,
K2692, Y2708, E2751, A2755, L2756, R2757 or D2752 for HCV subtype 3g,
I169, ~~I192, T192~~, A222, A252 or N2752 for HCV subtype 4k,
S216, M256, S272, L2681, or S2752 or E2746 for HCV subtype 4l,
Q2756 for HCV subtype 4m;
with said notation being composed of a letter representing the amino acid residue
by its one-letter code, and a number representing the amino acid numbering as shown
in Figures 2, 4 and 6~~Table 1~~; or
(iii) (iv) polynucleic acid which is the complement of any one of SEQ ID NOs: 1, 3,
5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 53, 55,
57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 99, 101, 103
or 105~~the nucleic acid of (i) or (ii) any one of~~.